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CONTENTS:

An Early Letter of Asa Gray. *C. L. Shear* 141
The Yellow-Fruited Raspberry. *W. H. Blanchard* . . . 143
The Genus Arnica in N. E. America. *M. L. Fernald* . . 146
Spergula sativa in Connecticut. *M. L. Fernald* . . . 151
Exhibitions of Fungi 153
Some Lithological Varieties of Ribes. *M. L. Fernald* . . 153
Note on Arenaria macrophylla. *S. J. Ballard* 156
Anaphalis margaritacea var. occidentalis. *M. L. Fernald* . 156

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Vol. 7 August, 1905 No. 80

LETTER OF DR. ASA GRAY TO LEWIS D. DE SCHWEINITZ.

THE following unpublished letter was written by Dr. Gray while he was teaching in Bartlett's School in Utica, New York, and is among the earliest of his botanical letters. It may be of interest to the readers of RHODORA as showing his early enthusiasm and aspirations. I am indebted to Dr. George de Schweinitz, a grandson of Lewis de Schweinitz, for the privilege of examining some of his grandfather's correspondence and of publishing such of it as seems desirable. There was an appendix to the letter containing a closely-written list of about 300 species of desiderata. De Schweinitz died in February of 1834, and this is the only letter from Dr. Gray which I have found amongst the correspondence.— C. L. SHEAR, Washington, D. C.

Utica, March 8th, 1833.

Dear Sir

Your kind and very acceptable letter of Decr. 30th has but just reached me owing to some mistake at the Post office. It reached me just as I had finished my chemical course and was about making arrangements for the Botanical campaign of the ensuing summer.

I thank you for the honor you do me in giving my name to that beautiful Carex I supposed to be C. livida. I had supposed it to be an undescribed species for some time. I sent it to Dewey with some other Carices last fall labelled *Carex livida*? He gave no opinion but sent me Wahl & Willd.'s description. The character of the remote or sub-radical lower Pist. spike mentioned by Willd. &c does not exist in our plant. It differs in the mode of growth as well as other

characters from *C. livida* — it is not caespitose. It was found in a sphagnous swamp. June. growing with *C. teretiuscula* and *sterilis*.

Carex alba var. setif. Dewey. Dewey informed me a year since he thought it a distinct species.

I shall be able & very happy to furnish you with specimens of most if not all the plants you selected from my list, tho' of some I have not a very good supply now on hand, and I shall either send you a small package in the spring or a very large one in the fall or sooner.— Many of those in the list were not fr. this vicinity. Some were collected in the pines and barrens of N. Jersey in Sept. last.— I am happy to inform you that I intend to spend, if my life in spared, a month or so in the southern part of N. Jersey in Aug. and Sept. next & I mean to explore that country thoroughly. Those you underlined are all found in this vicinity except *Cyperus setifolus*. *Nasturtium natans* De Cand. I discovered in Oneida Lake in 1831 — poor specimens — shall get better ones soon.

I have a Myriophyl. from Niagara falls, which I think is either M. *heterophyllum* or a new one — shall send it to you. I thank you much for your offer to send me a package.— I send a list of my *desiderata* (in Torrey — Flora & Compend.) in N. & Mid. States, doubtful species excluded, by which you will perceive that my Herbm. is yet very imperfect. Of plants of the Southern States I have few indeed. For any plants in the list or what you please I shall be very grateful. I hope I may meet with some of your *desiderata* one of these days — in such case I should consider myself doubly fortunate in being able to supply you and myself. I do not know which would please me most. I have lately received some good plants from Michigan Ter. such as Carex longirostris (very old) Koeleria orthostachya Tor. *ined*. Tofieldia glutinosa Mx. Houstonia tenerifolia *Nutt*? Euonymus atropurpureus, Lythrum hyssopifolium, Hydrophyllum appendiculatum, Monarda ciliata var. *Potentilla confertiflora* one specimen (I expect more) &c. all of which will find a place in my next package. I find my ardor for Botany increasing rapidly, and I mean to collect very extensively the ensuing spring and summer.— I have been thinking of attempting the study of the Genus Salix — (of which I now know nothing) that is, if you would advise it and think anything can be done with our species. Can you send me authentic specimens of any North American species? —

— — — — —

You probably have frequent opportunities of sending to New York. A package for me may be left in charge of my friend *Franklin Brown*, Esqr. 27. *Beekman St.* who will have frequent opportunities of forwarding it to me during the months of April & May.—
I will send to you. unless you otherwise order. through the Revd. Mr. Van Vleck. With many thanks for your kindness and good wishes I remain

Dear Sir
Yours very respectfully
Asa Gray.

P. S. Your letter was directed to me as the Revd. A. Gray which was probably a "lapsus pennae," and was the reason why it was mislaid at the Post office and did not reach me in due season. Tho' not in practice I belong to the medical profession.

A. G.

THE YELLOW-FRUITED VARIETY OF THE BLACK RASPBERRY.

W. H. Blanchard.

The interesting yellow-fruited form of *Rubus occidentalis*, L. was well known to our horticulturists long before our botanists knew it, as were several species of blackberries and the hybrid raspberries. Beyond the few very recent specimens mentioned below I have not been able to learn of it in any herbarium.

The first mention I can find of it was in 1833, when William Kenrick,[1] after naming varieties of *Rubus Idaeus*, L., then in cultivation, speaks of the "Black American Raspberry" and "White American Raspberry" as being "quite distinct from the above." I have not searched agricultural and horticultural periodicals but have examined all the books I could find bearing on the subject. It is next mentioned in 1845 by A. J. Downing.[2] Having noticed the "American Black Raspberry" he mentions this. "The American

[1] New American Orchardist, Boston, 1833, Ed. 1, p. 342.
[2] Fruit and Fruit Trees of America, N. Y., 1845, Ed. 1, p. 516.

White resembles the foregoing in all respects except the color of its fruit which is pale yellow or white." In 1867, Dr. Asa Gray[1] in describing *Rubus occidentalis* says: "Fruit purple-black (rarely a whitish variety)."

In 1867, also, Andrew S. Fuller[2] wrote of it the only good account I have found, and it is well worth being recorded in a botanical journal.

"American White Cap. *Yellow Cap*, *Golden Cap*. Fruit one-half to five-eighths of an inch broad, slightly oval; grains larger than in the preceding variety (American Black Raspberry); pale or deep yellow, covered with a white bloom; sweet, juicy, rather musky, but agreeable; canes light yellow, slightly glaucous; only moderately productive. This variety is also found wild from Maine to the Mississippi River and probably further west. I have received it from nearly all the Northern states and from the southern portion of the State of Delaware. It is seldom found in any great number, and this is probably one reason why so many people have supposed they had discovered something new when they had accidentally found one of these plants growing wild. Nearly every season I receive letters from different parts of the country, describing a new and remarkable wild variety of white raspberry, but when the plants are received they have invariably proved to be this variety. The habit of the plant is as good as could be desired, producing no suckers, but propagating from the tips of the young canes."[3]

Prof. L. H. Bailey[4] in 1898 closed his description of *R. occidentalis* with a brief account of this plant. "Amber-fruited forms of the black cap are occasionally found in wild areas." And in 1902 in his latest contribution on this genus[5] he advances a step. "Var Pallidus has amber-yellow fruit, sometimes found in the wild." So at last this variety has received a botanical name; but, as *pallidus* has already been used at least twice in this genus the writer proposes a new name.

This amber-fruited plant seems to be a good variety but a variety

[1] Manual, Ed. 5, 1867, p. 157.
[2] Small Fruit Culturist, N. Y., 1867, Ed. 1, p. 142.
[3] Note that Mr. Fuller did not call them *sterile* canes.
[4] Evolution of our Native Fruits, N. Y., 1898, p. 289.
[5] Cyclopaedia Am. Hort., N. Y., 1902, Vol. 4, p. 1582.

only. It is very distinct from the western *R. leucodermis*, Douglass which is at best a very weak species. Having examined a good deal of herbarium material and read several accounts of this western plant by those who have seen or known it in its native haunts, I think Card's [1] disposition of it is correct and quote Bailey's [2] description of it which may be compared with Fuller's description of the yellow-fruited form. "Var. LEUCODERMIS, Card (*R. leucodermis*, Douglass). Leaflets more coarsely serrate-dentate, sometimes nearly incise-serrate, the prickles strong and more hooked: fruit reddish black or black. Rocky Mts. and West."

Card [3] gives thirteen horticultural varieties of the Yellow Cap most of them being taken from Crozier's list.[4] Most of them were wildlings. The cultivated forms have never proved to be as fruitful nor as fine-flavored as some of the Black Caps and few are in cultivation at present. I have found a few people who have seen it wild. The writer found it July 19, 1902, on the farm of Mr. Joseph Farwell near Amsden in Weathersfield, Vermont, about two miles southwest of Mt. Ascutney. It was well spread over an acre or more in the road, in mowing and pasture. Inquiry proved that it had been well known to the owner of the farm from the beginning of his occupancy of thirty years, and there was no reason to believe that it was ever cultivated in that section. Specimens are in the Gray Herbarium and that of the New Jersey Botanical Garden. It is interesting here to note that Mr. O. P. Fullam, now of Westminster, Vermont, found it on Hawk Mt. about seven miles southwest of my Amsden station about thirty years ago.

Mr. L. P. Sprague of Burlington, Vermont, found it in Burlington in 1901 in a place that led him to suspect that it probably grew from a seed dropped by a bird. Mr. L. R. Taft now Horticulturist at the Michigan Agricultural College reports that he has found it in several places in Massachusetts and Michigan, — single plants which suggested to him a similar origin. Prof. C. H. Peck, State Botanist of New York found an isolated specimen in 1902 in the road near Albia, Rensselaer Co., New York, a specimen of which is preserved.[5]

[1] Card, Bush Fruits, N. Y., 1898, p. 319.
[2] Cyclopaedia Am. Hort., N. Y., 1902, Vol. 4, p. 1582.
[3] Bush Fruits, pp. 161–176.
[4] Crozier, Bull. 111, Mich. Exp. Sta.
[5] N. Y. State Museum Bul. 67, May 1903, p. 32.

Rubus occidentalis, L., var. **flavobaccus**, n. nom. Var. *pallidus*, Bailey, *White American Raspberry*, Kenrick, *Yellow Cap*, *White Cap*, *Golden Cap*, *Summit*, etc., of horticulturists.— Differs from the species in having pale yellow, light yellow or amber-yellow fruit. From Maine to the Mississippi River, Delaware and Kentucky. Known to horticulturists previous to 1833. Occasional throughout.

Westminster, Vermont.

THE GENUS ARNICA IN NORTHEASTERN AMERICA.

M. L. Fernald.

Arnica is a genus of mostly high-northern and montane plants reaching its greatest development in the mountains of western North America. There the species are perplexingly numerous: but in the eastern portion of the continent only three species have been generally recognized,— the unique *A. nudicaulis* of the southern coast, the familiar plant of northern New England and adjacent Canada which has passed as *A. Chamissonis*, and the Labrador *A. alpina*. Several recent collections in northern New England, eastern Canada, and Labrador, show that we have on our mountains and northern river banks a greater development of the genus than has been imagined. Owing to the established conviction that one uniform species extends from the Gulf of St. Lawrence to the White Mountains, the Adirondacks, and Lake Superior, the available collections of the genus are very inadequate; and doubtless many other species will be found, especially on the mountains and cliffs of eastern Quebec. The following synopsis of the northeastern species, so far as yet known may serve as a basis for further study of these attractive plants.

* Basal leaves tapering to the petiole.

\+ Leaves entire or with few irregular scattered teeth.

++ Stem pubescent throughout.

= Involucre, conspicuously villous-lanate at base.

A. alpina, Olin & Ladan. Stem 0.5–2.3 dm. high, sparingly villous below, densely so above, copiously villous-lanate at tip: leaves

more or less villous, linear-lanceolate to narrowly ovate; the basal 3–9 cm. long, narrowed to winged petioles; cauline 1 to 3 pairs, sessile, the lowest usually much larger than the upper: head solitary (rarely 3), 3.5–5 cm. broad: involucre densely lanate at base, sparingly villous and viscid-puberulent above; the usually purple-tinged lanceolate long-acuminate bracts 1.2–1.5 cm. long: rays 10 to 15, prominently 3-toothed: achenes hirsute: pappus barbellate, cream-white or slightly sordid.— Diss. 11 (1799), according to Ind. Kew.; Fries, Summ. Veg. Scand. 186 (1846); Lange, Consp. Fl. Groen. 103 (1880); Gray, Syn. Fl. i. pt. 2, 382 (1886), in part; Britton & Brown, Ill. Fl. iii. 472 (1898) in part; Britton, Man. 1023 (1901). *A. montana*, *B. alpina*, L., Sp. 884 (1753). *A. angustifolia*, Vahl, Fl. Dan. ix. t. 1524 (1818).— Arctic and alpine Europe: Greenland: Grinnell Land (*A. W. Greely*, no. 22): Labrador, Ekontiarsuk, Cape Chudleigh (*C. Schmitt*, no. 312); Hebron (*Mentzel*).

= = Involucre uniformly villous throughout.

A. **Sornborgeri.** Stem 2 dm. high, viscid-villous throughout, more densely so above: leaves glandular-puberulent and viscid-villous, linear to lanceolate; the basal 6 or 7 cm. long, narrowed to slender petioles; cauline 4 pairs, sessile, with scattered reduced bracts above, entire or remotely and irregularly short-dentate: head solitary, 4–5 cm. broad: involucre uniformly viscid-villous; the linear- to lance-attenuate purple-tipped bracts 1.2–1.4 cm. long: rays about 15, sharply 3-toothed: achenes hirsute: pappus barbellate, cream-white. — *A. alpina*, var. *Lessingii*, Fernald & Sornborger, Ott. Nat. xiii. 106 (1899), in part, not Gray.— Labrador, banks of mountain brook, at 100 m. altitude, Ramah, August 20–24, 1897 (*J. D. Sornborger*, no. 157, in part). Habitally resembling *A. alpina*, but with shorter more viscid pubescence which does not become at all lanate at the base of the involucre, and with slender-petioled basal leaves.

++ ++ Stem essentially glabrous below.

A. plantaginea, Pursh. Stem 2–4.5 dm. high, minutely and sparingly villous-hispid or glabrous below, glandular-puberulent above, becoming sparingly villous at tip: leaves lanceolate to oblong, entire, glabrous or sparingly pubescent on the nerves and margin; the basal slender-petioled, 6–10 cm. long; the cauline 2 to 4 pairs, sessile and reduced upward, the peduncles sometimes with small scattered bracts:

heads 1 to 3, apparently 3–5 cm. broad: involucral bracts glandular-villous at base, ciliate on the margin, otherwise sparingly puberulent or glabrate, oblanceolate, acuminate, about 1 cm. long: rays 10 to 15, 3-toothed: achenes hispid: pappus barbellate, cream-white. — Fl. 527 (1814). *A. angustifolia*, Torr. & Gray, Fl. ii. 449 (1843), in part, not Vahl. *A. alpina*, Gray, Syn. Fl. i. pt. 2, 382 (1886), in part, not Olin. *A. alpina*, var. *Lessingii*, Fernald & *Sornborger*, l. c., in part, not Gray.— Labrador, described from material collected by *Colmaster*; banks of a mountain brook, at 100 m. altitude, Ramah, August 20–24, 1897 (*J. D. Sornborger*, no. 157, in part); Nain (*Sandberg*).

\+ \+ Leaves prominently and regularly dentate.

\++ Pappus barbellate, white or whitish.

\= Pappus bright white.

A. **chionopappa**. Stem 0.7–3.5 dm. high, villous throughout with flat white hairs: leaves 3 to 5 pairs, lanceolate to narrowly ovate, thin, serrate-dentate, sparingly villous or glabrate, mostly confined to the lower half of the stem; the basal 0.5–1.3 cm. long, on very long slender petioles; the lower cauline petioled, the upper sessile and much reduced: peduncles 0.5–1.5 dm. long, bracteate, 1–3-flowered: head 3–4 cm. broad: involucre villous throughout, densely so at base; the linear- or lance-attenuate bracts 7–10 mm. long: rays 10 to 15, bluntly 3-toothed: achenes 3.5–5 mm. long, densely setulose; the ascending white setae barely one-half the diameter of the achene: pappus bright white, in fruit 5–6.5 mm. long.— Quebec, wet calcareous banks of the Grand River, Gaspé Co., in anthesis, June 30–July 3, 1904 (*G. H. Richards & M. L. Fernald*); wet cliffs at 500–550 ft., Grande Coupe, Percé, old fruit, August 19, 1904, Bonaventure River, fruit, August 5–8, 1904 (*Collins, Fernald & Pease*): New Brunswick, Sisson Gorge, Tobique River, July 25, 1900 (*G. U. Hay*, no. 72). A beautiful species characteristic of the calcareous cliffs of northern New Brunswick and the Gaspé Peninsula. Nearest related to *A. arnoglossa*, Greene, of the Black Hills, but differing in its thinner slender-petioled basal leaves, its more villous stem, and its villous involucre.

\= \= Pappus cream-white.

A. **gaspensis**. Stems 3–4 dm. high, villous below, glandular-

puberulent above: leaves 5 pairs, thick, lanceolate with sharp spreading teeth, slightly pilose on both surfaces, the lower pairs with broad-winged petioles, the upper sessile: the 3 heads, 4–5 cm. broad, on naked or bracted glandular-puberulent peduncles (1–1.5 dm. long): involucre glandular-puberulent and sparingly pilose; its oblong bracts 1 cm. long, with triangular ciliate-pilose tips: rays about 10, sharply 3-toothed: achenes 6–7 mm. long, hirsute with short and long hairs, the latter equalling the diameter of the achene: pappus cream-white, 8–10 mm. long.— *A. Chamissonis*, form, Gray, Syn. Fl. i, pt. 2, 382 (1886).— QUEBEC, very precipitous ledges of a hill at Cap Tourelle, near Ste. Anne des Monts, Gaspé, Co., July 14, 1881 (*J. A. Allen*).

++ ++ Pappus plumose, sordid.

A. MOLLIS, Hook. Stem 1.5–7 dm. high, more or less crisp-villous throughout, somewhat glandular above: leaves oblanceolate to ovate, mostly dentate, thin, sparingly pilose; the basal slender-petioled; the cauline (3–5 pairs) mostly sessile, 0.3–1.5 dm. long, the uppermost only slightly smaller: heads 1 to 9, on short (3–12 cm. long) naked or rarely bracted glandular-villous peduncles, 4–6 cm. broad: involucre glandular and villous throughout, densely so (almost lanate) at base; its lance-attenuate often purple-tipped bracts 1–1.6 cm. long: rays 10 to 15: achenes hirsute, 4–5 mm. long, shorter than the plumose yellow-brown or olive-tinged pappus. — Fl. Bor.-Am. i. 331 (1834); Torr. & Gr., Fl. ii. 450 (1843); Gray, Man. 241 (1848), ed. 3, 231 (1862), excluding Lake Superior plant. *A. lanceolata*, Nutt. Trans. Am. Phil. Soc. n. s., vii. 407 (1841); Britton, Man. 1023 (1901), excluding Lake Superior plant. *A. Chamissonis*, Gray, Syn. Fl. i. pt. 2, 381 (1886); Wats. & Coult. in Gray, Man. ed. 6, 292 (1890); Britton & Brown, Ill. Fl. iii. 472 (1898); in part, not Lessing. *A. Chamissonis*, var. *longinodosa*, A. Nelson, Bot. Gaz. xxx. 199 (1900). — QUEBEC, Thickets, Table-top Mt., Gaspé Co. (*J. A. Porter*); banks of the River Ste. Anne des Monts, Gaspé Co. (*J. A. Allen*); ledges of Little Cascapedia River (*Collins, Fernald, & Pease*); Somerset, Megantic Co. (*Ovide Brunet*): MAINE, mouth of Allaguash River (*D. W. Fellows*); wet cliffs, Mt. Katahdin (*Scribner, et al*): NEW HAMPSHIRE, White Mts. (*Oakes*); Oakes Gulf (*Faxon, et al*); Tuckerman's Ravine (*Farlow, et al*): Alberta and British Columbia, south to Colorado and California. — A specimen in the Gray Her-

barium of Hooker's own material of *A. mollis*, sent to B. D. Greene, leaves no question that the northeastern plant is identical with the Rocky Mountain species. There is, however, little question that it is distinct from *A. Chamissonis* to which it was referred by Dr. Gray. The latter Alaskan plant is much more pubescent, but less glandular, with less attenuate involucral bracts, less pubescent achenes, and barbellate rather than plumose pappus.

Var. **petiolaris**. Leaves narrow, oblanceolate, all but the very uppermost tapering to slender petioles: heads 3–4 cm. broad: involucral bracts scarcely 1 cm. long.—*A. mollis*, Torr. Fl. N. Y. i. 403, t. 60 (1843); Goodale, 2d Am. Rep. Nat. Hist. & Geol. Me. 123 (1862). *A. Chamissonis*, form, Gray, Syn. Fl. i. pt. 2, 382 (1886). Maine, in spray, Moxie Falls, Somerset Co., 1862 (*G. L. Goodale*); bank of a mountain-brook, Rangeley, July 28, 1879 (*Ralph W. Rounds*): New Hampshire, Mill Brook, Shelburne, August 2, 1884 (*W. Deane*); Gobilldunk Ravine, Mt. Moosilauke, August 26, 1898 (*W. W. Eggleston*): New York, Essex Co. (Torrey, l. c.).

* * Basal leaves rounded or cordate at base.

A. cordifolia, Hook. Stem 1.5–6 dm. high, more or less villous throughout, glandular above: basal and lower cauline leaves ovate, coarsely dentate, rounded or cordate at base, slender-petioled; upper short-petioled or subsessile: heads 1 to 8, slender-peduncled, 5–7 cm. broad: involucre villous, especially at base; its lanceolate to oblong acuminate bracts 1.3–2 cm. long: rays about 15: achenes hirsute: pappus white, barbellate.—Fl. Bor.-Am. i. 331 (1834); Torr. & Gr., Fl. ii. 450 (1843); Gray, Syn. Fl. i. pt. 2, 381 (1886); Britton & Brown, Ill. Fl. iii. 471, fig. 4025 (1898). *A. mollis*, Gray, Man. ed. 3, 231 (1862), as to Lake Superior plant, not Hook. *A. Chamissonis*, Gray, Syn. Fl. i. pt. 2, 381 (1886); Wats. & Coult. in Gray, Man. ed. 6, 292 (1890); Britton & Brown, Ill. Fl. iii, 472, (1898), as to Lake Superior plant, not Lessing. *A. lanceolata*, Britton, Man. 1023 (1901), as to Lake Superior plant, not Nutt.—Yukon to South Dakota, Colorado, Utah, Nevada, and California: Michigan, Copper Harbor, Keweenaw Co., 1849 (*J. D. Whitney*).

Gray Herbarium.

SPERGULA SATIVA IN CONNECTICUT.

M. L. Fernald.

Dr. C. B. Graves has sent to the Gray Herbarium a specimen of *Spergula sativa*, Boenn., collected in a cultivated field at New London, Connecticut, June 11, 1903. So far as I am aware this is the first occurrence of the plant in the United States although it is superficially so near the commonly established *S. arvensis*, L., that it has possibly escaped detection. In fact, the plant collected at Ottawa, Canada, in July, 1892, by Mr. J. Fletcher and distributed as *S. arvensis* (no. 115) in Halsted's American Weeds is very characteristic *S. sativa*.

In Europe there are several closely related species of *Spergula* differing in seed characters and geographic ranges; and since the status of *S. arvensis* and *S. sativa* has been very fully discussed by certain European authors it is well here to review the results of these studies. For some time the two plants, one with the seeds more or less covered with white papillae, the other with seeds quite without papillae, were not distinguished. In 1824, however, Boenninghausen[1] divided the so-called *S. arvensis* into two species, *S. sativa* with smooth seeds, and *S. vulgaris* with papillose seeds. These two plants have been regarded sometimes as species, sometimes as varieties; and by many continental and some British botanists the smooth-seeded plant was long supposed to be the true Linnean *S. arvensis*.

This view was still current in 1880, when Mr. George Nicholson[2] called attention to the occurrence of the two plants in Britain, and showed that the papillose seeded plant (*Spergula vulgaris*, Boenn.) was of broad distribution over continental Europe, though rare in the British Isles, and that it was the only species established in America. *S. sativa*, according to Mr. Nicholson, is a more northern plant, common in Britain and Scandinavia, but less common in central and southern Europe. This northern plant, *S. sativa*, "has minutely punctulate, margined seeds, and in a living state can be distinguished by its decidedly viscous, dull grey-green leaves and branches; on the other hand, in *S. vulgaris* the seeds are obscurely margined, or totally

[1] Prodr. Fl. Monast. 135 (1824). [2] Journ. Bot. xviii. 16–19 (1880).

devoid of wing, and beset with club-shaped papillae, generally quite black in fully-matured seeds. When growing the latter is conspicuous on account of its light grass-green leaves, altogether brighter-looking and less viscid than the former plant." [1]

In 1891, Mr. G. Claridge Druce,[2] the discriminating curator of the Fielding Herbarium at Oxford, showed that in the Linnean Herbarium "the only specimen labelled *S. arvensis* is quite typical *S. vulgaris* Boenn., as is the specimen in *Hort. Cliff.* The Morisonian plant is also *S. vulgaris*." Thus, from Mr. Druce's studies, there is no question that the papillose-seeded plant, now so commonly established in America, is the true *S. arvensis* of Linnaeus. Mr. Druce reiterates the statement of distribution previously made by Mr. Nicholson and in regard to the viscid character of *S. sativa* says further: "The difference in the relative viscoscity of *S. sativa* and *S. vulgaris* was strongly impressed upon my mind in September last, when I found *S. sativa* (accompanied with *S. vulgaris*) for the first time in Berks in a sandy field on Boars Hill, near Oxford, growing with many plants of *Senecio Jacobaea*. It was a singular fact that plants of *S. sativa* might be picked out from those of *S. vulgaris* [*S. arvensis*], from their being more or less covered with the pappus of the *Senecio* which in its wind-driven progress across the field became attached to *S. sativa*, but which the less viscid foliage of *S. vulgaris* [*S. arvensis*] did not retain." Later, in 1897, Mr. Druce said "The flowers of *S. sativa* have a valerianaceous odor which I have not noticed in *S. vulgaris* [*S. arvensis*], but I by no means assert that it is not present in the latter." [3]

The appearance in Connecticut and formerly at Ottawa of the smooth-seeded highly viscous *Spergula sativa* of northern Europe suggests that it may occur in other parts of the Eastern States and Canada; and it is hoped that the foregoing notes derived largely from European sources may be of service to those who watch for the plant in America.

Gray Herbarium.

[1] Journ. Bot. l. c. 17.
[2] Jour. Bot. xxix. 173–175 (1891).
[3] Druce, Fl. Berks. 102 (1897).

The Essex Institute of Salem, Massachusetts, has issued a notice of "meetings for the exhibition and study of Fungi" to be held at the Institute on July 17, August 29, September 5, 11, 18, and 25. These dates fall on Mondays, except September 5, which is Tuesday. "All who are interested in Edible and Poisonous Mushrooms are invited to attend, and to send for exhibition" any specimens that are complete and in a good state of preservation.

The committee in charge consists of Richards B. Macintosh, of Peabody, and Willis H. Ropes of Salem. Authorities on mushrooms are expected to speak at these meetings.

It is interesting to see others following the example set for a number of years by the Boston Mycological Club, whose exhibitions of named fungi are again this year a regular feature on Saturdays at Horticultural Hall from July to November.

SOME LITHOLOGICAL VARIATIONS OF RIBES.

M. L. Fernald.

The common gooseberry of eastern New England and the Maritime Provinces, *Ribes oxyacanthoides*, L., is a more or less prickly shrub, with the mature fan-shaped leaves of the fertile branches mostly cuneate or truncate at base, dark green and glabrate above, light green and only slightly villous on the veins beneath. The species is common in the coastal district either in swamps or in dry or rocky soil, and it extends inland as a somewhat local shrub throughout New England, west beyond the Great Lakes, and north to Hudson Bay. Its greatest development is apparently in the coastal area from southern New England to Newfoundland and eastern New Brunswick. In the southern half of Gaspé Peninsula in eastern Quebec the common New England form of the plant is apparently very rare; extended explorations along the Baie des Chaleurs, eastward to Gaspé Basin, and inland from fifteen to thirty miles along the larger rivers, showing the shrub to be probably absent from the great calcareous region (Lower Carboniferous and Silurian) which extends over most of the county of Bonaventure and

the southern part of the county of Gaspé. A single station only has been noted in the former county, a small clump of bushes on the "common" at New Carlisle, a district covered with white sea-sand rather than the red calcareous soil of the surrounding country.

In eastern Gaspé County, however, the limestones and calcareous slates of the Silurian and the strongly calcareous red conglomerates (Bonaventure conglomerates) of the Lower Carboniferous areas give way very largely to the non-calcareous dark sandstones and shales of the Devonian system; and the vegetation from Malbaie to the mouth of the Dartmouth River (and probably beyond) becomes essentially that of eastern New England. There, in an area notable from the presence of such plants as *Picea nigra*, *Nemopanthus fascicularis*, *Typha latifolia*, *Prenanthes trifoliolata*, *Geum virginianum*, *Luzula campestris*, var. *multiflora*, and many other characteristic species of eastern New England and New Brunswick, which are rare or unknown on the calcareous soils of Gaspé Peninsula, the ordinary type of *Ribes oxyacanthoides*, with leaves only slightly pubescent, is common, and it is probable that it occurs on the broad Devonian upland which occupies the center of the Peninsula.

Throughout the great Silurian and Lower Carboniferous areas which lie south of the central Devonian upland of Gaspé Peninsula typical *Ribes oxyacanthoides*, as already stated, is apparently absent, though it occurs locally on the sand dunes of New Carlisle, and probably on other dunes and beaches. Associated, however, with such lime-loving plants as *Carex livida* and *C. vaginata*, *Rhynchospora capillacea*, *Juncus Stygius*, var. *Americanus*, *Tofieldia glutinosa*, *Salix candida*, *Pinguicula vulgaris*, and *Senecio discoideus*, in the damp arbor-vitae forest and about the numerous marly ponds which characterize the Silurian and Lower Carboniferous districts, there is a smooth-fruited gooseberry which in leaf-outline and habit suggests *Ribes oxyacanthoides*, but which has the lower surface of its mature leaves so copiously soft-villous as to be grayish-white or silvery, while the pilose upper surfaces are dull pale green. This handsome shrub with the permanently villous lower leaf-surfaces was found by Messrs. J. F. Collins, A. S. Pease, and the writer in essentially all arbor-vitae swamps and on the margins of marl-ponds and occasionally on damp calcareous cliffs, from Carleton, near the head of the Baie des Chaleurs, to Percé, at the tip of the Peninsula. Confined to the strongly calcareous soils, where it fruits profusely, this shrub

was found venturing nowhere from the conditions which best suit it, though on cliffs at the summit of Tracadigash Mountain, a ragged trap ridge rising out of the calcareous tableland to a height of about 2000 feet above the Baie des Chaleurs, the bushes were poorly developed and mostly sterile.

In its leaf-outline, fruit and shriveled flowers, as well as in the character of its bark and prickles, this very pubescent shrub of southern Gaspé Peninsula is essentially identical with *Ribes oxyacanthoides*, and the only character which seems to distinguish it clearly is the extreme development of pubescence on its foliage. This character, however, is so constant over a broad and clearly marked geological area that the plant is of special interest as an extreme which may be called

RIBES OXYACANTHOIDES, L., var. **calcicola.** Resembling the species, but young branches, petioles, and lower leaf-surfaces permanently and densely white tomentose.— Calcareous soils of Bonaventure and Gaspé Counties, QUEBEC: Arbor-Vitae swamp, Carleton, July 27, 1904, trap cliffs near summit of Tracadigash Mt., July 24, 1904, Arbor-Vitae swamps at the mouth of the Bonaventure River, August 2, 1904 — **type** (*J. F. Collins, M. L. Fernald & A. S. Pease*); also noted in similar habitats at New Richmond, Grand River, and Percé, and upon the Little Cascapedia and Dartmouth Rivers. A flowering specimen from Mackinaw, Michigan (*Loring*) in the Gray Herbarium may belong here.

A striking difference in the degree of pubescence, suggesting that shown in *Ribes oxyacanthoides*, is found also in *R. Cynosbati*. In New England and Eastern Canada, at any rate, the latter shrub, with permanently soft-pubescent leaves and spiny berries, abounds in the interior strongly calcareous regions, where the smooth-leaved typical *R. oxyacanthoides* is rare, but from the non-calcareous regions near the coast and in central and eastern Maine and the Maritime Provinces it is quite absent. This typical form of *R. Cynosbati*, with soft-pubescent leaves extends through the St. Lawrence basin to the Great Lakes and beyond, and southward in the Eastern States. An extreme with leaves quite as glabrate as in true *R. oxyacanthoides* is found on the south shore of Lake Erie and on the slopes of some of the higher Alleghanies. Whether this smooth-leaved extreme is, like the typical smooth-leaved *R. oxyacanthoides*, confined primarily to the less calcareous soils, the data at hand do not clearly show; but the very glabrate phase of the plant seems worthy distinction as

RIBES CYNOSBATI, L., var. **glabratum.** Leaves pubescent only with scattered hairs, becoming glabrate in age.— VIRGINIA, northeast slope of White Top Mountain, Smyth County, altitude 4000–5000 feet, May 28–29, 1892 (*J. K. Small*) : NORTH CAROLINA, slopes of Mt. Mitchell, August 8, 1897 (*Biltmore Herb.*, No. 3252b) : OHIO, Painesville, 1871 (*H. C. Beardslee*); Oberlin, June, 1894 (*Hicks*).

GRAY HERBARIUM.

A SECOND VERMONT STATION FOR ARENARIA MACROPHYLLA. — *Arenaria macrophylla* was found by a road-side in the western part of Newfane, Vermont, on May 22d, in both bud and blossom. It was growing in coarse pebbly soil on the high bank which formed the southern side of the road, consequently with not much direct sunshine, in the partial shade of low trees of various kinds. It was apparently well established and from the scattered plants in its locality of perhaps six feet square evidently spreading. — S. J. BALLARD, Newfane, Vt.

ANAPHALIS MARGARITACEA, VAR. OCCIDENTALIS IN EASTERN AMERICA.— An abundant plant on some of the gravel bars of the Grand River, in Gaspé County, Quebec, is an *Anaphalis* with the lanceolate long-acuminate leaves bright green and glabrous above. In late June, 1904, when, with Messrs. Louis Cabot and George H. Richards, I examined the plant, it seemed very unlike the narrower-leaved plant with at least the young leaves tomentose above, the common Life Everlasting, *Anaphalis margaritacea*, of New England pastures. The Grand River plant was too immature for identification; but recently Mr. Richards has brought me specimens, nearly in anthesis, collected in July, 1904. These prove to be the northwestern *A. margaritacea*, var. *occidentalis*, Greene, Fl. Fran. 399 (1897), described as "common among sand hills of the seaboard from at least middle California to Alaska." This strongly marked variety is probably of somewhat broad range about the Gulf of St. Lawrence, for it was collected at Channel on the Newfoundland coast in 1901 (*Howe & Lang*, no. 967).— M. L. Fernald, Gray Herbarium.

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